



## PARTS LIST

EFFECTIVE APRIL 1, 1952

# *Monotype Material Making Machine*

WITH A PREFACE which gives directions for ordering parts and a simple explanation of our method of designating parts and the way they are arranged in this book.

*Lanston Monotype Machine Company, Philadelphia 3, Pennsylvania*



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*Lanston Monotype Machine Company*

PHILADELPHIA

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### BRANCH OFFICES:

ATLANTA, GEORGIA	<i>116 Spring Street, North West</i> PHONE, <i>Main 1854</i>
BOSTON, MASSACHUSETTS	<i>170 Summer Street</i> PHONE, <i>Liberty 2-6990, 2-6991</i>
SAN FRANCISCO, CALIFORNIA	<i>Sharon Building, 55 New Montgomery Street</i> PHONE, <i>Sutter 1-6275</i>
CHICAGO, ILLINOIS	<i>216 West Jackson Boulevard</i> PHONE, <i>State 2-2768, 2-2769</i>
TORONTO, ONTARIO <i>Canada</i>	<i>77 York Street, 4th Floor</i> PHONE, <i>Empire 3-8747, 3-8748</i>
NEW YORK, NEW YORK	<i>Room 802, 441 Lexington Avenue</i> <i>(North East Corner East 44th Street)</i> PHONE, <i>Vanderbilt 6-3155, 6-3156</i>
NEW YORK, NEW YORK <i>Barrett Division</i>	<i>Room 402, 114 Liberty Street</i> PHONE, <i>Worth 2-6260</i>
PHILADELPHIA, PENNSYLVANIA	<i>Twenty-fourth at Locust Street</i> PHONE, <i>Lecust 7-4614</i>

# DIRECTIONS FOR ORDERING PARTS

(A Careful Reading Is Important)

All of these directions are essential. You will save time, trouble and money by reading them carefully before ordering any parts.

If you are not familiar with the Monotype terms here used, read "Designation of Parts" which follow these "Directions for Ordering Parts."

To enable us to fill orders correctly you must give us the following information:

- (1) Give the number of the Machine for which the part is required (stamped on the Name Plate).
- (2) Give the name of the part.
- (3) Give the symbol of the part (give every character in the symbol exactly as printed—every one means something).
- (4) Give the quantity required of each part.
- (5) To order a complete Attachment for a Machine give the number of the Machine and the name of the Attachment.

## DESIGNATION OF PARTS

(Classification)			
(Name)	(Quantity)	(Number)	(Symbol)
Cam-guard Screw	(3)	2250	a314E1

NAME: Shows that these Screws hold the Cam Guard in place.

QUANTITY: Three of these Screws; where no quantity is given "1" is understood.

CLASSIFICATION NUMBER: Standard pieces which may be used in several places under

different symbols are given classifying numbers; those numbers beginning with "1" are bolts, "2" screws, "3" nuts, "4" washers, "5" dowels, "6" springs, "7" rivets, "8" spring pins and posts, "9" cotters. All pieces having the same classification number are alike without regard to what their symbols may be.

SYMBOL: Identifies and locates the part. The letter "E" indicates that these Screws are in the "E" section (the entire machine being divided into four sections lettered "A", "E", "I" and "H"). The figure 214 preceding the letter indicates that these Screws are in group No. 214 of this section (the groups comprising each section being numbered). The figure 1 following the letter indicates that these Screws are the first piece of this group (the individual pieces comprising each group being numbered consecutively). If a lower-case letter precedes the first figure in the symbol (for example, Cam Shaft b204E1) it indicates there have been one or more changes in the piece and the new piece is not interchangeable with the superseded one without changing or altering other parts. If the section letter is repeated as the last character of the symbol (for example 57A1A) it indicates that this piece is furnished only assembled with one or more other pieces, in which case a reference mark and a note at the end of the group gives details for the assembly. When a cap "X" is the first character of a symbol (for example, X36F), it calls for the complete group as listed above it.

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## Section A

Mechanism for carrying the matrix and holding it on the opening in the mold while the product is being cast.

55A—Bridges.....	55A1
56A—Bridge Support (3).....	56A1
disk (3).....	56A2
Union Support group.....	X56A

For Logotype Attachment see page 11.  
For 36-Point Attachment see page 12.

57A—Matrix Carrier.....	57A1A
plate (2).....	57A2
rivet (3).....	7180

MATRIX CARRIER GROUP.....X57A

\*57A1A is assembled with 57A2 and 57A3.  
Order by the complete symbol X57A.

58A—Matrix-carrier Pin.....	7232
-----------------------------	------

59A—Matrix-carrier Toggle Link.....	59A1
-------------------------------------	------

(upper).....a59A2

pin (center).....59A3

(upper).....59A5

(lower).....59A6

spring (in a59A2A).....7237

MATRIX-CARRIER TOGGLE LINK GROUP.....X59A

\*a59A2A is assembled with a59A7.

Machines prior to 8023 were equipped with the following parts:

MATRIX-CARRIER TOGGLE LINK.....	59A1
---------------------------------	------

(upper).....59A2A

spring (in a59A2A).....7237

Note: These parts are obsolete and will no longer be furnished. Order instead the improved parts.

60A—Matrix-carrier-toggle-link Adjusting Sleeve.....	60A1
--	------

lock nut.....60A2

MATRIX-CARRIER-TOGGLE-LINK ADJUSTING SLEEVE GROUP.....X60A

61A—Matrix-carrier-toggle-link Supporting Rod.....	61A1
--	------

rod.....61A2

nut.....61A3

lock nut.....61A3

MATRIX-CARRIER-TOGGLE-LINK SUPPORTING ROD GROUP.....X61A

63A—Matrix-carrier-toggle-link Operating Rod.....	63A1
---	------

ball extension.....63A11

ball socket (front).....63A2

\* guard.....63A3

\* guard.....63A10

eye.....63A4

\* lock nut.....63A5

\* lock nut.....63A6

nut.....63A7

spring.....6250

\* adjustment (2).....a63A8

sleeve (center).....a63A14

(inner) (2).....a63A15

MATRIX-CARRIER-TOGGLE-LINK OPERATING ROD GROUP.....X63A

Machines prior to 9450 were equipped with the following parts:

MATRIX-CARRIER-TOGGLE-LINK OPERATING ROD.....	63A1
---	------

spring.....63A8

washer.....63A9

and omitted a63A13, a63A14 and a63A15.

Note: These parts are obsolete and will no longer be furnished. Order instead the improved parts a63A8, a63A13, a63A14 and a63A15. The improved parts provide an improved and stronger spring action and must be furnished together when ordered for the first time.

64A—Mold Oilier.....	64A1
----------------------	------

arm.....64A2

\* stud.....64A3A

\* pin.....64A4

\* nut.....64A5

\* washer.....64A6

pipe.....64A8

lock nut.....64A7

Mold Oilier group.....X64A

\*a4A3A is assembled with 64A6.

65A—Mold-older Support.....65A1

Section E

Mechanism for receiving power from the belt and transmitting it to the various portions of the machine; also the electric wiring, conduits, etc. for the Motor.

197E—Name Plate.....	a197E4
setcrew (4).....	2275
Name Plate group.....	Xa197E4

198E—Base.....	198E1
----------------	-------

199E—Belt Tightener Pulley.....	b199E1E
---------------------------------	---------

arm.....199E2

hushing (oilless wood).....a199E6

plate (2).....a199E3

\* nut.....226

Belt Tightener Pulley group.....Xa199E

\*b199E1E is assembled with a199E2.

Machines prior to 8713 were equipped with the following parts:

BELT TIGHTENER PULLEY.....	a199E1
----------------------------	--------

stud.....a199E3

color.....199E5

and omitted a199E2.

Note: The improved Pulley b199E1E is interchangeable with the Pulley a199E1.

should be ordered in place of it.

200E—Belt-tightener-pulley-arm Spring.....	6255
--	------

201E—Cam-lever-fulcrum-pin Stand.....	L201E1
---------------------------------------	--------

color.....201E2

guard.....201E3

guard.....201E3

CAM-LEVER-FULCRUM-PIN STAND GROUP.....Xa201E

Machines prior to 11654 were equipped with the following parts:

CAM-LEVER-FULCRUM-PIN STAND.....	a201E1
----------------------------------	--------

Note: This part is obsolete and will no longer be furnished. Order instead the improved part and with it order two a201E2 and order a218E1, adding two 1-16-18 tapped holes.

Machines prior to 8783 were not equipped with the following part:

CAM-LEVER-FULCRUM-PIN STAND.....	a201E4
----------------------------------	--------

order pipe.....a201E4

Note: This Pipe replaces the Older 201E2 to a more accessible position.

202E—Cam-lever-fulcrum-pin-stand Screw (8).....	23
---	----

Machines 11654 and following were equipped with the following part:

CAM-LEVER-FULCRUM-PIN-STAND SCREW (2).....	216
--	-----

a202E2

204E—Cam Shaft.....	b204E1
---------------------	--------

collar (between pump arm and small gear).....204E2

\* = large gear.....204E3

gear (large).....204E4

\* (small).....204E5

key (long).....204E7

Cam Shaft is furnished complete with the following parts in place: Xb204E, a204E1, Xa204E2, Xa204E3, and Xa204E4.

Note: Should it be necessary to replace any Gear or Cam (except the Xb204E Cam) the SHAFT Xb204E5 must be returned to our factory.

Machines prior to 7835 were equipped with the following parts:

CAM SHAFT.....	a204E1
----------------	--------

gear (medium).....204E5

(small).....204E6

205E—Cutter Cam.....	205E1
----------------------	-------

(left).....205E2

hushing.....b205E3

CUTTER CAM GROUP.....Xb205E

Note: CRYSTAL CAM may be shipped for application to Machines 7835 and following if assembled on the BUSHING a205E2 with the KEYS a205E1.

Machines prior to 7835 were equipped with the following parts:

CUTTER CAM.....	a205E3
-----------------	--------

hushing.....a205E3

key (name to hushing).....a205E3

205E—Cutter Cam (continued)

Note: CUTTER CAMS a205E1 and a205E2 may be shipped for application to Machines prior to 7835 if assembled on the BUSHING a205E2 with the KEYS a205E1. To secure this assembly to the DRIVING SHAFT furnish:

CUTTER-CAM KEY.....	206E1
---------------------	-------

206E—Cutter-cam Key (name and hushing to Shaft) (2).....	a206E1
--	--------

Machines prior to 7835 were equipped with the following part:

CUTTER-CAM KEY.....	206E1
---------------------	-------

207E—Cutter-cam Lever.....	a207E1
----------------------------	--------

pawl.....b207E2

\* finger.....a207E3

\* screw.....2222

\* spring.....a207E4

\* fulcrum pin (head operates Rock Shaft).....207E5

\* = cotter.....94

\* spring.....62

\* pawl.....834

roller (2).....a207E6

\* hushing (2).....a207E4

\* pin (2).....a207E4

\* = washer (2).....207E11

spring post (for Pawl Spring).....831

CUTTER-CAM LEVER GROUP.....X207E

\*207E1 is assembled with a207E2.

\*207E2 is assembled with a207E3.

\*207E3 is assembled with a207E4.

In addition to the above parts, Machines 8373 and following are equipped with the following part:

CUTTER-CAM LEVER PAWL FINGER.....	a207E16
-----------------------------------	---------

Note: This part (applied in place of a207E3), together with the STRAP-BLANK-HOLE STAP 197F1, is used for cutting short lengths, and insures that the short length will be held between the TRANSFER BLANK. The two parts a207E16 and 197F1 may be ordered for, and applied to prior machines at any time.

Machines prior to 8353 (except 7848, 7857, 8238 and 8341, for which see X207E) were equipped with the following part:

CUTTER-CAM LEVER PAWL FINGER SCREW.....	233
---	-----

and omitted a207E15.

Machines prior to 7835 were equipped with the following parts:

CUTTER-CAM LEVER PAWL.....	a207E16
----------------------------	---------

finger.....a207E3

Note: The improved parts are interchangeable with the old if ordered together.

Machines prior to 7835 (except 7775, 7777, 7778 and 7782, for which see X207E) were equipped with the following part:

CUTTER-CAM LEVER ROLLER (2).....	a207E9
----------------------------------	--------

and omitted a207E14.

Note: This part will no longer be furnished. Order instead a207E9 which is interchangeable with it.

208E—Cutter-cam-lever Fulcrum Stud.....	a208E1
---	--------

washer.....310

washer.....462

CUTTER-CAM LEVER-FULCRUM STUD GROUP.....X208E

209E—Driving Shaft.....	a209E1E
-------------------------	---------

collar.....209E2

\* pin.....7233

nut.....209E3

DRIVING SHAFT GROUP.....X209E

\*209E1E is assembled with 209E2 and 209E3.

210E—Driving-shaft Sliding Gear.....	210E1
--------------------------------------	-------

211E—Driving-shaft-sliding-gear Key.....	211E1
--	-------

212E—Driving-shaft Key (for Pulley).....	212E1
--	-------

213E—Cam Guard.....	a213E1
---------------------	--------

Machines prior to 7835 were equipped with the following part:

CAM GUARD.....	213E1
----------------	-------

Note: This part is obsolete and will no longer be furnished. Order instead the improved part.

**214E—Cam-guard Screw (3).....2250.. \*214E1**

Machines prior to 7835 were equipped with the following part:

Cam-guard Screw (3).....2245.. 214E1

Note: This part is obsolete and will no longer be furnished. Order instead the improved part.

**215E—Hand Wheel.....215E1****215E—Hand-wheel Key.....226E1****217E—Hand-wheel Nut.....323.. \*217E1**

Machines prior to 7835 were equipped with the following part:

Hand-wheel Nut.....217E1

**218E—Main Stand.....218E10**

oil retaining cap.....218E10

oil retaining cap.....218E10

oil retaining cap.....218E10

oil retaining cap.....218E10

oil retaining cap.....218E10

oil retaining cap.....218E10

oil retaining cap.....218E10

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oil retaining cap.....218E10

Machines prior to 7835 were equipped with the following part:

**224E—Main-stand-bearing Screw (for 221E1) (3).....29.. 224E1**

**225E—Main-stand Bolt (4).....147.. 225E1**

**226E—Matrix-carrier Cam (left).....226E1**

(right).....226E2

MATRIX-CARRIER CAM GROUP.....226E3

Note: When a CAM is to be replaced the SHAFT complete with its CAMS must be returned to our factory.

**227E—Matrix-carrier-cam Lever.....227E1E**

clamp screw.....227E2

roller (3).....227E3

\* bushing (2).....227E4E

pin (3).....227E5

\* washer (2).....227E6

MATRIX-CARRIER-CAM LEVER GROUP.....227E7

\* 227E1E is assembled with 227E3, 227E5, 227E6, 227E7. Order by the complete symbol 227E7.

227E7E1E is assembled with 227E3, 227E5, 227E6, 227E7.

Machines prior to 7835 (except 7777, 7778 and 7782 for which see above) were equipped with the following part:

MATRIX-CARRIER CAM LEVER ROLLER (2).....227E4

and omitted 227E5

Note: This part will no longer be furnished. Order instead 227E4E which is interchangeable with it.

**228E—Matrix-carrier-cam-lever Fulcrum Pin.....228E1**

**229E—Matrix-carrier-cam-lever-fulcrum-pin Set Screw.....229E1**

**230E—Mold-blade Bell Crank.....230E1E**

bushing.....230E2

MOLD-BLAD BLK CRANK GROUP.....230E3

\* 230E1E is assembled with 230E2. Order by the complete symbol 230E3.

**231E—Mold-blade-ball-crank Adj. Stud nut.....146.. 231E1**

nut.....231E2

MOLD-BLAD-BLL-CRANK ADJ. STD. GROUP.....231E3

**232E—Mold-blade-ball-crank Stud (nut).....330.. 232E1**

\* (upper).....232E2

washer.....232E3

MOLD-BLAD-BLL-CRANK STD. GROUP.....232E4

**233E—Mold-blade Cam (left).....233E1**

(right).....233E2

MOLD-BLAD CAM GROUP.....233E3

Note: When a CAM is to be replaced the SHAFT complete with the CAMS must be returned to our factory.

Machines prior to 11415 (except 11402 and 11532) were equipped with the following part:

MOLD-BLAD CAM.....233E1

(left).....233E2

**234E—Mold-blade-cam Lever (left).....234E1E**

ball pin.....234E2

\* roller (2).....234E3

\* bushing (2).....234E4E

\* pin (2).....234E5

\* roller (2).....234E6

\* washer (2).....234E7

MOLD-BLAD-CAM LEVER GROUP (2).....234E8

\* 234E1E is assembled with 234E2, 234E3, 234E4E, 234E5, 234E6, 234E7 and 234E8.

234E8E is assembled with 234E2, 234E3, 234E4E, 234E5, 234E6, 234E7 and 234E8.

Machines prior to 7835 (except 7777, 7778 and 7782 for which see above) were equipped with the following part:

MOLD-BLAD CAM LEVER GROUP (2).....234E8

Note: This part will no longer be furnished. Order instead 234E8E which is interchangeable with it.

**235E—Mold-blade-cam-lever Fulcrum Pin.....235E1**

nut.....235E2

nut.....235E3

nut.....235E4

nut.....235E5

nut.....235E6

nut.....235E7

nut.....235E8

nut.....235E9

nut.....235E10

nut.....235E11

nut.....235E12

nut.....235E13

nut.....235E14

nut.....235E15

nut.....235E16

nut.....235E17

nut.....235E18

nut.....235E19

nut.....235E20

nut.....235E21

nut.....235E22

nut.....235E23

nut.....235E24

nut.....235E25

nut.....235E26

nut.....235E27

**236E—Mold-blade-cam-lever-fulcrum-pin Set Screw.....236E1**

**237E—Mold-blade Operating Rod.....237E1**

coupling.....237E2

\* screw.....237E3

micrometer wedge (2).....237E4

\* rod (2).....237E5

\* head (2).....237E6

\* lock nut (2).....237E7

\* spring (2).....237E8

\* adj. screw (2).....237E9

\* head (2).....237E10

\* lock nut (2).....237E11

\* stand (bottom).....237E12

\* stand (top).....237E13

\* stand (5).....237E14

\* dowel (2).....237E15

\* (top).....237E16

\* screw (to 237E12).....237E17

(5).....237E18

MOLD-BLAD OPERATING ROD GROUP.....237E19

\* 237E1E is assembled with 237E2, 237E3, 237E4, 237E5, 237E6, 237E7, 237E8, 237E9, 237E10, 237E11, 237E12, 237E13, 237E14, 237E15, 237E16, 237E17, 237E18 and 237E19.

Machines prior to 8333 were equipped with the following part:

MOLD-BLAD OPERATING ROD.....237E1E

micrometer wedge (2).....237E2

rod (2).....237E3

Note: These parts are obsolete and will no longer be furnished. Order instead the improved parts 237E4 and 237E5. These improved parts must be ordered together when ordered for the first time.

**238E—Mold-blade Spring Box.....238E1E**

\* adjusting nut.....238E2

\* lock nut.....238E3

\* head.....238E4

\* socket.....238E5

\* ball.....238E6

\* cap.....238E7

\* screw (2).....238E8

\* nut.....238E9

\* lock nut (2).....238E10

\* lock nut.....238E11

\* spring (inside).....238E12

\* (outside).....238E13

\* adjustment (front).....238E14

\* (rear).....238E15

\* tube.....238E16

\* cap (rear).....238E17

\* socket (front).....238E18

\* ball.....238E19

\* cap.....238E20

\* screw (2).....238E21

MOLD-BLAD-SPRING BOX GROUP.....238E22

\* 238E1E is assembled with 238E2, 238E3, 238E4, 238E5, 238E6, 238E7, 238E8, 238E9, 238E10, 238E11, 238E12, 238E13, 238E14, 238E15, 238E16, 238E17, 238E18, 238E19, 238E20 and 238E21.

Machines prior to 11897 were equipped with the following part:

MOLD-BLAD SPRING BOX.....238E22

(inside).....238E23

Note: The new SPRING BOX is interchangeable.

Machines prior to 7840 (except 7777, 7778 and 7782 for which see 234E) were equipped with the following part:

MOLD-BLAD SPRING BOX.....238E22

rod socket.....238E23

\* screw (2).....238E24

Note: These parts are obsolete and will no longer be furnished. The improved parts provide Nut and Lock Nuts for the Screw.

**239E—Mold-blade Cam.....239E1**

Note: When a CAM is to be replaced, the SHAFT complete with its CAMS must be returned to our factory.

**240E—Mold-blade-cam Lever.....240E1**

pin (bearing on cam).....240E2

\* nut.....240E3

MOLD-CLOUSE-CAM LEVER GROUP.....240E4

\* 240E1E is assembled with 240E2, 240E3 and 240E4.

Note: These parts may be applied to previous machines if furnished together.

Machines 11803 and following were equipped with the following part:

MOLD-CLOUSE-CAM LEVER OIL WICK.....240E4

holder.....240E5

\* 240E1E is assembled with 240E4 and 240E5.

Note: These parts may be applied to previous machines if furnished together.





<b>257E—Mold-blade-bell-crank Guard</b> .....	<b>257E1</b>
<b>258E—Conduit Body</b> .....	<b>258E1</b>
screw (2).....	<b>222</b> 258E2
washer (4).....	<b>413</b> 258E3
nut screw 1/8-16 long, brass, 10-32 (2).....	<b>234E4</b>
<b>CONDUIT</b> .....	<b>258E5</b>
screw (2).....	<b>222</b> 258E6
nut screw 1/8-16 long, brass, 10-32 (2).....	<b>234E7</b>

Machines prior to 8333 were equipped with the following parts:

<b>CONDUIT BODY 3-4"</b> .....	<b>258E10</b>
porelin cover (4-bolt).....	<b>258E11</b>
and omitted 258E12 to 258E16	<b>223</b> 258E13
Note: The added parts extended the conduit to the motor base, and the omitted parts were not used.	
<b>SNAP SWITCH</b> .....	<b>258E18</b>
handle.....	<b>258E19</b>
screw (2).....	<b>222</b> 258E20
Note: 258E20 is assembled with 258E18 and 258E22.	

Machines prior to 10716 were equipped with the following parts:

<b>SNAP SWITCH</b> .....	<b>258E25</b>
handle.....	<b>258E26</b>
protective cover.....	<b>258E27</b>
conduit body adapter.....	<b>258E28</b>
and omitted 258E29	
Note: These parts can no longer be furnished. Order instead the new style SNAP SWITCH 258E28 and its two SCREWS 258E29 and downward the CONDUIT BODY ADAPTER 258E28.	

<b>CUT OFF (30 AMP.)</b> .....	<b>258E9</b>
screw (3-16" button-head stove bolt, 1-2" long with nut) (4).....	<b>258E10</b>
<b>CONDUIT (3-4" single flexible steel (18 1/4")</b> .....	<b>258E11</b>
<b>CONDUIT (3-4" single flexible steel (34 1-2")</b> .....	<b>258E12</b>
<b>CUTTING CUTTING (3-4" single flexible steel (34 1-2")</b> .....	<b>258E13</b>
<b>V. V. PIPE SNAP 3-4"</b> .....	<b>258E14</b>
screw.....	<b>222</b> 258E15
washer.....	<b>413</b> 258E16
<b>No. 14 INSULATED WIRE, 60" (4).....</b>	<b>258E17</b>
<b>UTILITY BOX</b> .....	<b>258E18</b>
<b>COVER</b> .....	<b>222</b> 258E19
Note: Later machines do not require these parts as they have been incorporated in the motor. Earlier machines will not require these parts when equipped with a new motor.	

Machines 8333 to 10139 inclusive were equipped with the following parts:

<b>UTILITY BOX extension</b> .....	<b>258E24</b>
screw (2).....	<b>222</b> 258E25
screw (2).....	<b>222</b> 258E26
Note: Later machines do not require these parts as they have been incorporated in the motor. Earlier machines will not require these parts when equipped with a new motor.	

277E, 278E and 279E—(See page 12)

<b>283E—Rotation Arrow</b> .....	<b>283E1</b>
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## Section F

Mechanism for receiving product from Mold, cutting it into lengths, and assembling it on Galley.

<b>77F—Channel Bar (for leads and rules)</b> .....	<b>77F1</b>
screw (2).....	<b>222</b> 77F2
support (for long strips).....	<b>77F3</b>
nut screw 1/8-16 long, brass, 10-32 (2).....	<b>234E4</b>
<b>CHANNEL BAR GROUP</b> .....	<b>X77F4</b>

<b>78F—Galley</b> .....	<b>78F1</b>
support bar (2).....	<b>78F2</b>
" rivet (5).....	<b>7207</b> 78F3
" washer (2).....	<b>413</b> 78F4
<b>GALLEY GROUP</b> .....	<b>X78F4</b>
Note: 78F4 is assembled with 78F1 and 78F3.	

<b>83F—Shear Blade</b> .....	<b>83F1</b>
For 18 Point Attachment use SHEAR-BLADE GROUP.....	<b>83F2</b>

Machines prior to 7830 (except 7777, 7778, 7779 and 7835 for which see above) were equipped with the following part:

<b>SHEAR-BLADE</b> .....	<b>83F1</b>
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<b>84F—Shear-blade Guide</b> .....	<b>84F1</b>
For 18 Point Attachment use SHEAR-BLADE GUIDE.....	<b>84F2</b>

<b>85F—Shear-blade Shoe</b> .....	<b>85F1</b>
screw (4).....	<b>234</b> 85F2
tube.....	<b>X85F3</b>
" down.....	<b>535</b> 85F4
" spring post.....	<b>812</b> 85F5
" " nut.....	<b>33</b> 85F6
<b>SHEAR-BLADE SHOE GROUP</b> .....	<b>X85F5</b>
Note: 85F5 is assembled with 85F1 and 85F4.	

Machines prior to 11820 were not equipped with the following part:

<b>SHEAR-BLADE SHOE-TUBE CLAMP</b> .....	<b>85F8</b>
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<b>86F—Shear-blade-shoe-tube Clamp</b> .....	<b>86F1</b>
(lower).....	<b>86F2</b>
screw.....	<b>140</b> 86F3
<b>SHEAR-BLADE SHOE-TUBE CLAMP GROUP</b> .....	<b>X86F</b>

<b>87F—Shear-blade-shoe-tube Guide</b> .....	<b>87F1</b>
screw (2).....	<b>2207</b> 87F2
<b>SHEAR-BLADE SHOE-TUBE GUIDE GROUP</b> .....	<b>X87F</b>

<b>88F—Shear Gage</b> .....	<b>88F1</b>
adjusting nut (optional).....	<b>88F2</b>
" sleeve (inside).....	<b>88F3</b>
lug.....	<b>88F4</b>
" label.....	<b>88F5</b>
pin.....	<b>7161</b> 88F6
<b>SHEAR GAGE GROUP</b> .....	<b>X88F</b>
Note: 88F1 is assembled with 88F2 and 88F4.	

<b>89F—Shear-gage Spring</b> .....	<b>89F1</b>
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<b>90F—Stacker Plate</b> .....	<b>90F1</b>
support (right).....	<b>90F2</b>
" rivet (2).....	<b>7216</b> 90F3
" (left).....	<b>90F4</b>
" rivet (3).....	<b>7218</b> 90F5
<b>STACKER PLATE GROUP</b> .....	<b>X90F5</b>
Note: 90F5 is assembled with 90F2, 90F3, 90F4 and 90F7. Order by complete symbol X90F5.	

Machines prior to 7668 were equipped with the following part:

<b>STACKER PLATE</b> .....	<b>90F1</b>
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<b>91F—Stacker Rock Shaft</b> .....	<b>91F1</b>
link (2).....	<b>91F2</b>
pin (2).....	<b>91F3</b>
" center (2).....	<b>56</b> 91F4
<b>STACKER ROCK SHAFT GROUP</b> .....	<b>X91F2</b>

Note: The improved part which is designed to prevent loads from catching when stacking short lengths can be applied by cutting operation on CUTTER BRACKET 101F1.

<b>92F—Stack Support Block</b> .....	<b>92F1</b>
shoe (steel).....	<b>92F2</b>
" screw (4).....	<b>244</b> 92F3
<b>STACK SUPPORT BLOCK GROUP (2) (each)</b> .....	<b>X92F</b>

<b>93F—Supporting Beam</b> .....	<b>93F1</b>
bolt (2).....	<b>15</b> 93F2
<b>SUPPORTING BEAM GROUP</b> .....	<b>X93F</b>

<b>94F—Supporting-beam Bracket (right)</b> .....	<b>94F1</b>
bolt (2).....	<b>129</b> 94F2
spring pin.....	<b>85</b> 94F3
<b>SUPPORTING-BEAM BRACKET GROUP</b> .....	<b>X94F</b>
Note: 94F1 is assembled with 94F2.	

<b>95F—Supporting-beam Bracket (left)</b> .....	<b>95F1</b>
bolt (2).....	<b>129</b> 95F2
spring pin.....	<b>85</b> 95F3
<b>SUPPORTING-BEAM BRACKET GROUP</b> .....	<b>X95F</b>
Note: 95F1 is assembled with 95F2.	

<b>96F—Transfer Bar (rear)</b> .....	<b>96F1</b>
hanger (left).....	<b>96F2</b>
" spring pin.....	<b>864</b> 96F3
" (right).....	<b>96F4</b>
" screw (4).....	<b>241</b> 96F5
pin (bearing for 101F1).....	<b>96F6</b>
<b>TRANSFER BAR GROUP</b> .....	<b>X96F</b>
Note: 96F1 is assembled with 96F2, 96F3, 96F4 and 96F5.	

Machines 8203 to 10482 inclusive, were equipped with the following part:

<b>TRANSFER BAR (rear)</b> .....	<b>96F1</b>
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<b>TRANSFER BAR (rear)</b> .....	<b>96F1</b>
Note: These parts provide an adjustable stop for the SHEAR YOKES 170F1F, and must be furnished together when ordered for the first time.	

<b>TRANSFER BAR (rear)</b> .....	<b>96F1</b>
Note: These parts provide an adjustable stop for the SHEAR YOKES 170F1F, and must be furnished together when ordered for the first time.	

<b>TRANSFER BAR (rear)</b> .....	<b>96F1</b>
Note: These parts provide an adjustable stop for the SHEAR YOKES 170F1F, and must be furnished together when ordered for the first time.	

<b>TRANSFER BAR (rear)</b> .....	<b>96F1</b>
Note: These parts provide an adjustable stop for the SHEAR YOKES 170F1F, and must be furnished together when ordered for the first time.	

<b>TRANSFER BAR (rear)</b> .....	<b>96F1</b>
Note: These parts provide an adjustable stop for the SHEAR YOKES 170F1F, and must be furnished together when ordered for the first time.	

## 96F—Transfer Bar (rear) (continued)

Note: To apply the improved parts to Machines 8203 to 10482 order 106F1F, 107F1, 104F1, 104F2 and 170F2.

<b>97F—Transfer Bar (front)</b> .....	<b>97F1</b>
hanger (left).....	<b>97F2</b>
" spring pin.....	<b>864</b> 97F3
" (right).....	<b>97F4</b>
screw (4).....	<b>241</b> 97F5
<b>TRANSFER BAR GROUP</b> .....	<b>X97F</b>
Note: 97F1 is assembled with 97F2, 97F3, 97F4 and 97F5.	
For 18 Point Attachment use.....	<b>107F1</b>

Machines 11820 and following are equipped with the following part:

<b>TRANSFER-BAR-HANGER SPRING</b> .....	<b>8352</b> 97F10
and omit 97F3 (pin).....	

Machines 8203 to 10482 inclusive were equipped with the following parts:

spring clip.....	<b>907E</b>
" screw (2).....	<b>2167</b> 907F9

Machines prior to 8203 were equipped with the following parts:

<b>TRANSFER BAR (front)</b> .....	<b>97F1</b>
pusher (3).....	<b>97F2</b>
" screw (3).....	<b>241</b> 97F3
and omitted 97F4 and 97F5.	

Note: To apply the improved parts to Machines prior to No. 10482 order 106F1F, 97F1, 104F1, 104F2 and 170F2.

<b>100F—Transfer-bar-hanger Rod</b> .....	<b>100F1</b>
COIL (2).....	<b>93</b> 100F2
<b>TRANSFER-BAR-HANGER ROD GROUP</b> .....	<b>X100F</b>

<b>101F—Transfer-bar Operating Lever</b> .....	<b>101F1</b>
bearing.....	<b>101F2</b>
" rivet (2).....	<b>101F3</b>
adjusting screw.....	<b>2252</b> 101F4
" nut.....	<b>35</b> 101F5
<b>TRANSFER-BAR OPERATING LEVER GROUP</b> .....	<b>X101F</b>
Note: 101F1 is assembled with 101F2 to 101F5. Order by the complete symbol X101F.	

Machines prior to 8193 were equipped with the following part:

<b>TRANSFER-BAR OPERATING LEVER</b> .....	<b>101F1</b>
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Note: This part is obsolete and will no longer be furnished. Order instead the improved parts which provide an adjustable stop for the SHEAR YOKES 170F1F, and must be furnished together when ordered for the first time.

<b>102F—Shear Yoke Adjusting Screw</b> .....	<b>102F1</b>
nut.....	<b>310</b> 102F2
<b>SHEAR YOKES ADJUSTING SCREW GROUP</b> .....	<b>X102F</b>

<b>103F—Transfer-bar-hanger Spring</b> .....	<b>103F1</b>
(hang).....	<b>523</b> 103F2

<b>104F—Transfer-bar-hanger Spring</b> .....	<b>104F1</b>
(hang).....	<b>8205</b> 104F2
<b>TRANSFER-BAR-HANGER SPRING GROUP</b> .....	<b>X104F</b>

Machines 11820 and following are in place of the above:

<b>TRANSFER-BAR-HANGER SPRING</b> .....	<b>8287</b> 104F3
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Machines 8203 to 10482 inclusive, were not equipped with group X104F, but used instead:

<b>SPRING CLIP</b> .....	<b>907E</b>
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<b>151F—Cutter Bracket (for long leads)</b> .....	<b>151F1</b>
stop pin (for shear yoke).....	<b>151F2</b>
" adjusting screw.....	<b>151F3</b>
" lock nut.....	<b>151F4</b>
<b>CUTTER BRACKET GROUP</b> .....	<b>X151F</b>
Note: 151F1 is assembled with 151F2.	

Machines prior to 8210 (except 8195, for which see above) were not equipped with:

<b>CUTTER BRACKET</b> .....	<b>151F1</b>
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<b>CUTTER BRACKET</b> .....	<b>151F1</b>
stop pin (for shear yoke).....	<b>151F2</b>
" adjusting screw.....	<b>151F3</b>
" lock nut.....	<b>151F4</b>
<b>CUTTER BRACKET GROUP</b> .....	<b>X151F</b>
Note: 151F1 is assembled with 151F2.	

Machines prior to 8210 (except 8195, for which see above) were not equipped with:

<b>CUTTER BRACKET</b> .....	<b>151F1</b>
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<b>CUTTER BRACKET</b> .....	<b>151F1</b>
stop pin (for shear yoke).....	<b>151F2</b>
" adjusting screw.....	<b>151F3</b>
" lock nut.....	<b>151F4</b>
<b>CUTTER BRACKET GROUP</b> .....	<b>X151F</b>
Note: 151F1 is assembled with 151F2.	

Machines prior to 8210 (except 8195, for which see above) were not equipped with:

<b>CUTTER BRACKET</b> .....	<b>151F1</b>
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<b>CUTTER BRACKET</b> .....	<b>151F1</b>
stop pin (for shear yoke).....	<b>151F2</b>
" adjusting screw.....	<b>151F3</b>
" lock nut.....	<b>151F4</b>
<b>CUTTER BRACKET GROUP</b> .....	<b>X151F</b>
Note: 151F1 is assembled with 151F2.	

Machines prior to 8210 (except 8195, for which see above) were not equipped with:

<b>CUTTER BRACKET</b> .....	<b>151F1</b>
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<b>CUTTER BRACKET</b> .....	<b>151F1</b>
stop pin (for shear yoke).....	<b>151F2</b>
" adjusting screw.....	<b>151F3</b>
" lock nut.....	<b>151F4</b>
<b>CUTTER BRACKET GROUP</b> .....	<b>X151F</b>
Note: 151F1 is assembled with 151F2.	

152F—Cutter-bracket Screw (for 151F1F, side) (2).....	29..	152F1
153F—Cutter-bracket Screw (for 151F1F, side).....	221E	153F1
154F—Cutter-bracket Screw (for 151F1F, rear) (2).....	23E	154F1
155F—Cutter-bracket Screw (151F1 to 151F1F).....	224E	155F1

For Logotype Attachment see page 12.		
156F—Cutter Bracket (for short leads).....	156F1F	
hook.....	156F2	
" nut.....	310..	156F3
" washer.....	49..	156F4
cap.....	156F5	
" bolt (2).....	113..	156F6
" washer (2).....	412..	156F7
guide.....	156F8	
" screw.....	222E	156F9
" washer.....	415..	156F10
shear blade (fixed).....	156F11	
" adjusting screw.....	156F12	
" screw.....	233..	156F13
" (movable).....	156F14	
" carrier.....	156F15F	
" pin.....	156F16	
stop screw.....	221E	156F17
*156F17 assembled with 156F15 to 156F14 inclusive, 156F15F and 156F16.		156F18
*156F18F is assembled with 156F16.		
Note: When casting and stacking monotype material see list under Style NR20 Mouse on page 11.		

For Logotype Attachment see page 12.		
157F—Cutter Rock Shaft (short leads).....	157F1F	
nut.....	157F2	
" nut.....	314..	157F3
" (operating Shear Blade).....	157F4	
CUTTER ROCK SHAFT GROUP.....	X157F	
*157F1F is assembled with 157F4.		

158F—Cutter-rock-shaft Retaining Spring.....	158F1	
159F—Cutter-rock-shaft-retaining-spring Screw (2).....	241..	159F1

160F—Galley Plate (for short leads).....	160F1F	
161F—Galley-plate Screw (3).....	244..	161F1

162F—Main Bracket (for outer and galley).....	162F1F	
set screw (for 162F1F) (2).....	116..	162F2
spring pin (for 171F1).....	833..	162F3
MAIN BRACKET GROUP.....	X162F	
*162F1F is assembled with 162F3.		

Machines prior to 8104 were equipped with the following part. See Note following 164F.		
163F—Main-bracket Buffer (both).....	163F1	

Machines prior to 8104 were equipped with the following part.		
164F—Main-bracket-buffer Screw (2).....	245..	164F1

Note: These parts are not required on later machines where the SHARP Yoke is fitted. It is fitted to act as a stop for the SHEAR-BLADE GUIDE.		
165F—Main-bracket Screw (side and top) (4).....	29..	165F1

166F—Main-bracket Screw (top rear).....	27..	166F1
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167F—Shear-blade Operating Pin.....	167F1	
" cutter (2).....	83..	167F2
" washer.....	45..	167F3
SHEAR-BLADE OPERATING PIN GROUP.....	X167F	

168F—Shear-blade-shoe-tube Spring.....	624..	168F1
" plate (2).....	168F2	
" hook.....	168F3	
SHEAR-BLADE-SHOE-TUBE SPRING GROUP.....	X168F	

170F—Shear Yoke.....	170F1F	
fulcrum pin.....	170F2	
" nut.....	38..	170F3
" spring (inner).....	170F4	
" (outer).....	X170F	
*170F1F is assembled with 170F4.		

## 170F—Shear Yoke (continued)

Machines prior to 10461 were equipped with the following part:

SHEAR Yoke.....	170F1F
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Note: This part is obsolete and will no longer be furnished. Order instead the improved part which is interchangeable with it. The improved part is altered to provide for cutting material up to and including 18 point.

171F—Shear-yoke Spring.....	626E..	171F1
" plate (2).....	171F2	
SHEAR-YOKE SPRING GROUP.....	X171F	

For Logotype Attachment see page 12.

172F—Sticker Bar (for short leads).....	172F1F	
spring.....	172F2	
" rivet.....	722..	172F3
" support.....	172F4	
" clamp.....	172F5	
" screw.....	113..	172F6
" level nut.....	172F7	
" rivet (2).....	724..	172F8
STACKER BAR GROUP.....	X172F	
*172F1F is assembled with 172F2, 172F3, 172F4 and 172F5.		

173F—Sticker-bar Adjusting Stand.....	173F1	
" adjusting screw.....	235..	173F2
" screw.....	373F3	
" screw (4).....	727..	173F4
STACKER-BAR ADJUSTING STAND GROUP.....	X173F	

174F—Mold Unit Drawer.....	174F1	
" latch (2).....	174F3	
" screw (No. 8 finished wood screw) (2).....	174F4	
" runner (left).....	174F5F	
" (right).....	174F6F	
" bolt (4).....	314..	174F7
" washer (4).....	174F8	
MOLD UNIT DRAWER GROUP.....	X174F	

*174F2F is assembled with one each of 174F3 and 174F4.		
*174F5F is assembled with one each of 174F3 and 174F4.		

175F—Shear-blade-shoe-tube Friction Plate.....	175F1	
" screw.....	2167..	175F2
" washer.....	448..	175F3
SHEAR-BLADE-SHOE-TUBE FRICTION PLATE GROUP.....	X175F	

176F—Sticker Guard (left).....	176F1	
" (right).....	176F2	

Machines prior to 10483 were not equipped with the following part:

STACKER GUARD (right).....	176F2
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177F—Guide Plate (for small point sizes).....	177F1	
" clamping collar.....	177F2	
" GUIDE PLATE GROUP.....	X177F	

Machines prior to 8183 were not equipped with the following part:		
GUIDE PLATE GROUP.....	X177F	

178F—Guide Roller.....	178F1	
" ceramic.....	178F2	
" nut.....	865..	178F4
" roller.....	95..	178F5
" facing (rubber).....	178F6	
" GUIDE ROLLER GROUP.....	X178F	

GENIE ROLLER GROUDED, special for column rule (6 point).....	178F7	
GENIE ROLLER GROUDED, special for column rule (3 point and 6 point).....	178F8	

Machines prior to 8210 (except 8195, 8204, 8207 and 8204, for which see above) were not equipped with the following part:		
GUIDE ROLLER GROUP.....	X178F	

179F—Shear-blade-guide Stop.....	179F1	
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Note: Use also with 207E16.

180F to 185F incl. (See page 13)		
221F (See page 13)		

Machines prior to 11820 were not equipped with the following group. To apply this improvement order X224F assembly.		
222F—Shear-blade-shoe-tube Weight.....	222F1	
" plug.....	222F2	
" rod.....	222F3F	
" washer.....	222F4	
" stud (inner).....	222F5	
" (outer).....	614E..	222F6
" tube.....	222F7F	

## 222F—Shear-blade-shoe-tube Weight (continued)

tube bushing.....	222F8
" cap.....	222F9
SHEAR-BLADE-SHOE-TUBE WEIGHT GROUP X222F.....	
*222F3F is assembled with 222F4.	
*222F7F is assembled with 222F8.	

Machines prior to 11820 were not equipped with the following part:

223F—Shear-blade-shoe-tube Weight Cord.....	223F1
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Machines prior to 11820 were not equipped with the following group:

224F—Shear-blade-shoe-tube-weight-cord Sheave.....	224F1
" post.....	121E29
" screw (2).....	121E30
" cutter.....	95..
" washer.....	413..
SHEAR-BLADE-SHOE-TUBE-WEIGHT-CORD SHEAVE GROUP.....	X224F

## Section H

Mechanism for melting metal and forcing it into the Mold, also the supply and drain pipe for their connections with the parts they supply.

12H—Melting Pot (gas).....	a12H27	
" casing (outside).....	a12H28H1	
" end plate.....	a12H30	
" screw (2).....	227..	a12H31
" adjusting bar (right).....	a12H31	
" (left).....	a12H32	
" chimney support.....	a12H33	
" screw (3).....	219E..	a12H34
" washer (3).....	413..	a12H35
" (inside).....	219E..	a12H36
" screw (4).....	219E..	a12H37
" magnesium packing.....	a12H38	
" asbestos cement.....	a12H39	
MELTING POT GROUP.....	Xa12H27	
*a12H28H1 is assembled with a12H27, a12H29, a12H30 inclusive, a12H38 and a12H39. Order by the complete symbol Xa12H27.		

Machines prior to 10621 were not equipped with the following part:

MELTING POT.....	
" casing screw (3).....	220..
" washer (3).....	413..
" (inside).....	219E..

Note: These screws, which serve to hold the MELTING POT tightly to the SHEAR FRAME and prevent any possible shift, may be applied to any prior machine, equipped with MELTING POT Xa12H27, by tapping the necessary holes in the MELTING POT CASING.

Machines 8553 to 8804 inclusive, and 8920 to 9416 inclusive (except 9216 and 9334, for which see Xa12H27) were equipped with the following parts:	
MELTING POT.....	a12H
" casing.....	a12H2H
" bracket.....	a12H18
" screw (2).....	216..
" dowel (2).....	58..
" screw.....	121H
" stud (2).....	121H
" nut (2).....	310..
" washer (2).....	410..
" screw (4).....	219E..
" magnesium packing.....	a12H22
" asbestos cement.....	a12H24
MELTING POT GROUP.....	Xa12H

*a12H21 is assembled with a12H, a12H18, a12H19, a12H20, a12H, a12H19, a12H10, a12H11, a12H12, a12H13, a12H14, a12H15, a12H16, a12H17, a12H18, a12H19, a12H20, a12H21, a12H22, a12H23, a12H24, a12H25, a12H26, a12H27, a12H28, a12H29, a12H30, a12H31, a12H32, a12H33, a12H34, a12H35, a12H36, a12H37, a12H38, a12H39, a12H40, a12H41, a12H42, a12H43, a12H44, a12H45, a12H46, a12H47, a12H48, a12H49, a12H50, a12H51, a12H52, a12H53, a12H54, a12H55, a12H56, a12H57, a12H58, a12H59, a12H60, a12H61, a12H62, a12H63, a12H64, a12H65, a12H66, a12H67, a12H68, a12H69, a12H70, a12H71, a12H72, a12H73, a12H74, a12H75, a12H76, a12H77, a12H78, a12H79, a12H80, a12H81, a12H82, a12H83, a12H84, a12H85, a12H86, a12H87, a12H88, a12H89, a12H90, a12H91, a12H92, a12H93, a12H94, a12H95, a12H96, a12H97, a12H98, a12H99, a12H100, a12H101, a12H102, a12H103, a12H104, a12H105, a12H106, a12H107, a12H108, a12H109, a12H110, a12H111, a12H112, a12H113, a12H114, a12H115, a12H116, a12H117, a12H118, a12H119, a12H120, a12H121, a12H122, a12H123, a12H124, a12H125, a12H126, a12H127, a12H128, a12H129, a12H130, a12H131, a12H132, a12H133, a12H134, a12H135, a12H136, a12H137, a12H138, a12H139, a12H140, a12H141, a12H142, a12H143, a12H144, a12H145, a12H146, a12H147, a12H148, a12H149, a12H150, a12H151, a12H152, a12H153, a12H154, a12H155, a12H156, a12H157, a12H158, a12H159, a12H160, a12H161, a12H162, a12H163, a12H164, a12H165, a12H166, a12H167, a12H168, a12H169, a12H170, a12H171, a12H172, a12H173, a12H174, a12H175, a12H176, a12H177, a12H178, a12H179, a12H180, a12H181, a12H182, a12H183, a12H184, a12H185, a12H186, a12H187, a12H188, a12H189, a12H190, a12H191, a12H192, a12H193, a12H194, a12H195, a12H196, a12H197, a12H198, a12H199, a12H200, a12H201, a12H202, a12H203, a12H204, a12H205, a12H206, a12H207, a12H208, a12H209, a12H210, a12H211, a12H212, a12H213, a12H214, a12H215, a12H216, a12H217, a12H218, a12H219, a12H220, a12H221, a12H222, a12H223, a12H224, a12H225, a12H226, a12H227, a12H228, a12H229, a12H230, a12H231, a12H232, a12H233, a12H234, a12H235, a12H236, a12H237, a12H238, a12H239, a12H240, a12H241, a12H242, a12H243, a12H244, a12H245, a12H246, a12H247, a12H248, a12H249, a12H250, a12H251, a12H252, a12H253, a12H254, a12H255, a12H256, a12H257, a12H258, a12H259, a12H260, a12H261, a12H262, a12H263, a12H264, a12H265, a12H266, a12H267, a12H268, a12H269, a12H270, a12H271, a12H272, a12H273, a12H274, a12H275, a12H276, a12H277, a12H278, a12H279, a12H280, a12H281, a12H282, a12H283, a12H284, a12H285, a12H286, a12H287, a12H288, a12H289, a12H290, a12H291, a12H292, a12H293, a12H294, a12H295, a12H296, a12H297, a12H298, a12H299, a12H300, a12H301, a12H302, a12H303, a12H304, a12H305, a12H306, a12H307, a12H308, a12H309, a12H310, a12H311, a12H312, a12H313, a12H314, a12H315, a12H316, a12H317, a12H318, a12H319, a12H320, a12H321, a12H322, a12H323, a12H324, a12H325, a12H326, a12H327, a12H328, a12H329, a12H330, a12H331, a12H332, a12H333, a12H334, a12H335, a12H336, a12H337, a12H338, a12H339, a12H340, a12H341, a12H342, a12H343, a12H344, a12H345, a12H346, a12H347, a12H348, a12H349, a12H350, a12H351, a12H352, a12H353, a12H354, a12H355, a12H356, a12H357, a12H358, a12H359, a12H360, a12H361, a12H362, a12H363, a12H364, a12H365, a12H366, a12H367, a12H368, a12H369, a12H370, a12H371, a12H372, a12H373, a12H374, a12H375, a12H376, a12H377, a12H378, a12H379, a12H380, a12H381, a12H382, a12H383, a12H384, a12H385, a12H386, a12H387, a12H388, a12H389, a12H390, a12H391, a12H392, a12H393, a12H394, a12H395, a12H396, a12H397, a12H398, a12H399, a12H400, a12H401, a12H402, a12H403, a12H404, a12H405, a12H406, a12H407, a12H408, a12H409, a12H410, a12H411, a12H412, a12H413, a12H414, a12H415, a12H416, a12H417, a12H418, a12H419, a12H420, a12H421, a12H422, a12H423, a12H424, a12H425, a12H426, a12H427, a12H428, a12H429, a12H430, a12H431, a12H432, a12H433, a12H434, a12H435, a12H436, a12H43
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**12H—Melting Pot (gas) (continued)**

\*12H1H is assembled with 12H1, 12H2, 12H3, 12H4, 12H5, 12H6, 12H7 and 12H11. This part is obsolete and will no longer be furnished. Order instead X12H1.

12H2H is assembled with 12H5.

Note: To apply improved large Por to Machines 7845 and following requires in addition to the large Por Xa12H27 the large Pump Body, Piston, Nozzles, Spray Flame Taper, etc.

To apply improved large Por to Machines prior to 7845 requires in addition to the above the new style Por Raising Mechanism.

When ordering the improved large Por Assembly be sure to give machine number so that proper parts may be furnished.

**13H—Melting-pot Chimney 13H**

Important information regarding Nozzles is given on inside back cover.

**14H—Nozzle, regular (5-8" thread) (for Venting Tube Nozzles, see below)**

All purposes..... 14H58  
50-hole..... 14H10  
47-hole..... 14H11  
43-hole offset..... 14H12  
for 6-point fusion (No. 7)..... 14H13  
for 12-point fusion (No. 8)..... 14H14  
special for N12H Molds (No. 4)..... 14H15  
special for decorative-end or plain column-with rules (No. 5)..... 14H16  
lock nut..... 14H17

Machines prior to 9415 (except 9315 and 9334, for which see above) were equipped with small Pot and Pump which require the following parts:

NOZZLES (1-2-13 thread)  
50-hole..... 14H10  
47-hole..... 14H11  
43-hole offset..... 14H12  
for 6-point fusion (No. 7)..... 14H13  
for 12-point fusion (No. 8)..... 14H14  
special for N12H Molds (No. 4)..... 14H15  
special for decorative-end or plain column-with rules (No. 5)..... 14H16  
lock nut..... 14H17

**Vented Tube Nozzles (Monotype Metal)**

2 point (No. 53 drill)..... 14H51  
1 and 3 point (No. 50 drill)..... 14H52  
4 point (No. 50 drill)..... 14H53  
12 point (No. 50 drill)..... 14H54  
12 and 18 point (No. 43 drill)..... 14H55  
24 point (No. 38 drill)..... 14H56  
36 point (No. 30 drill)..... 14H57

**Vented Tube Nozzles (Linotype Metal)**

2 point (No. 50 drill)..... 14H52  
1 and 3 point (No. 50 drill)..... 14H53  
4 point (No. 49 drill)..... 14H54  
6 point (No. 47 drill)..... 14H55  
12 and 18 point (No. 43 drill)..... 14H56  
12 point (No. 30 drill)..... 14H57  
36 point (No. 26 drill)..... 14H58

For decorative borders and other faces requiring special treatment. The drill size given first is for supply hole nearest seat hole.

**Vented Tube Nozzles (Monotype Metal)**

6 point (Nos. 51 and 52 drill)..... 14H59  
12 point (Nos. 51 and 52 drill)..... 14H60  
18 point (Nos. 40 and 44 drill)..... 14H61

**Vented Tube Nozzles (Linotype Metal)**

6 point (Nos. 50 and 50 drill)..... 14H59  
12 point (Nos. 51 and 52 drill)..... 14H60  
18 point (Nos. 40 and 44 drill)..... 14H61

**15H—Nozzle Squaring Pin (5-8" 18 threads) 15H1**

Machines prior to 9415 unless equipped with the Making Pot Xa12H27, use the following part:

NOZZLE SQUARING PIN (3/8" 18 threads)..... 15H1

**17H—Piston..... a17H11**  
handle..... 17H11  
\* stem..... 17H12  
\* nut..... 17H13  
Piston group..... Xa17H13  
\*17H1H is assembled with 17H2 and 17H3.  
Pistons (.003" oversize)..... a17H14

Machines prior to 9415 (except 9315 and 9334, for which see above) were equipped with the following part:

Piston..... a17H11  
Note: The Piston a17H11 is 7-8" diameter and is used with Pump Body X23H.  
Piston (.003" oversize)..... a17H12

**18H—Piston Lever..... a18H**  
bearing (2)..... a18H1  
\* screw (2)..... a18H3  
Piston Lever group..... Xa18H

**19H—Piston Operating Rod..... a19H**  
crosshead (lower, for a07H1)..... a19H1  
\* dowel..... 19H12  
\* support, for a18H1..... 19H13  
\* nut..... 19H14  
\* set screw (for Margaux Feeder)..... a19H19  
\* stud..... 19H15  
\* lock nut..... 19H17  
Piston Operating Rod group..... Xa19H16

Machines prior to 9220 (except 9051, 9059, 9195 and 9198, for which see above) were equipped with the following part:

Piston Operating Rod..... a19H  
crosshead (lower, for 67H1)..... 19H11  
and omitted a19H5.

To apply the improved parts order the following:

Piston Operating Rod..... a19H  
crosshead (lower)..... 19H12  
\* support, for a18H1..... 19H13  
\* nut..... 19H14  
\* set screw (for Margaux Feeder)..... a19H19  
\* stud..... 19H15  
\* lock nut..... 19H17  
Piston Operating Rod group..... Xa19H16

Machines prior to 9301, in addition to the above, require the following:

PUMP BODY SPRING..... a22H1  
\* nut..... a22H1  
rod..... a22H1  
rod sleeve (2) (total 3)..... a22H1

**20H—Piston Spring**

(outside)..... 6242..... a20H9  
(inside)..... 6159..... a20H7  
\* nut..... a20H10  
rod..... a20H11  
\* eye..... a20H2  
\* pin..... 847..... 20H9  
\* \* \* \* \* 99..... 20H12  
\* \* \* \* \* 465..... a20H13  
washer..... Xa20H9  
Piston Spring group..... Xa20H9

Machines prior to 9415 (except 9315 and 9334, for which see above) were equipped with the following parts:

Piston Spring..... 6159..... a20H7  
rod..... 20H11  
\* eye..... a20H2  
\* pin..... 847..... 20H9  
\* \* \* \* \* 99..... 20H12  
\* \* \* \* \* 465..... a20H13  
washer..... Xa20H9  
Piston Spring group..... Xa20H9

**23H—Pump Body..... a23H20H**  
bushing..... a23H21  
piston stop plate (upper)..... a23H22  
\* \* \* \* \* (lower)..... a23H24  
\* \* \* \* \* stud (2)..... a23H25  
\* \* \* \* \* nut (2)..... 314..... a23H26  
\* \* \* \* \* sleeve (2)..... a23H27  
plug (upper end of nozzle hole in arm)..... a23H28  
regulating screw..... a23H29  
\* \* \* \* \* nut..... a23H30  
valve..... a23H31  
\* plug (bottom)..... a23H32  
\* \* \* \* \* (side)..... a23H33  
Pump Body group..... Xa23H20  
\*a23H20H is assembled with a23H21 to a23H33 inclusive. Order by the complete symbol Xa23H20.

**23H—Pump Body (continued)**

\* Note: To equip Machines prior to 9415 with the Pump Body Xa23H20 requires that the improved large Por be applied to Machine, see Note under 12H.

Machines prior to 9415 (except 9315 and 9334, for which see above) were equipped with the following parts:

Pump Body..... a23H20  
bearing (nozzle end for a23H21)..... 23H11  
bearing (stud end for a23H21)..... 23H12  
\* screw (2)..... 220..... 23H13  
plug (bottom)..... 23H14  
regulating screw (for flow of metal)..... 23H15  
valve..... a23H16  
Pump Body group..... Xa23H  
\*23H1H is assembled with 23H1 to 23H16 inclusive. Order by the complete symbol Xa23H.

**24H—Pump-body Lever..... a24H1**  
bearing (2)..... a24H1  
\* screw (2)..... a24H3  
Pump-body Lever group..... Xa24H

**25H—Pump-body Lifting Lever (piston end)..... a25H9**  
clump screw..... 216..... a25H9  
fulcrum pin..... a25H10  
pin (pump bearing)..... a25H11  
set screw (for a25H11)..... a25H12  
\* \* \* \* \* (for a25H11)..... a25H13  
Pump-body Lifting Lever group..... Xa25H9

Machines prior to 9415 unless equipped with the large Pot Xa12H27 (except 9315 and 9334, for which see above) were equipped with the following parts:

Pump-body Lifting Lever (piston end)..... a25H9  
loading latch..... 25H1  
\* \* \* \* \* screw..... 25H2  
stand (front, on melting pot)..... 25H3  
\* \* \* \* \* (rear, on melting pot)..... 25H4  
\* \* \* \* \* cap..... 25H5  
\* \* \* \* \* screw (2)..... 223..... 25H6  
\* \* \* \* \* screw (5)..... 223..... 25H7  
Pump-body Lifting Lever group..... Xa25H9  
\*a25H4H is assembled with 25H5 and 25H6.

**26H—Pump-body Lifting Lever (nozzle end)..... a26H10**  
fulcrum pin..... a26H11  
\* \* \* \* \* nut..... 319..... a26H9  
aging pin..... 821..... a26H9  
Pump-body Lifting Lever group..... Xa26H9  
\*a26H1H is assembled with a26H9.

Machines prior to 9415, unless equipped with the large Pot Xa12H27 (except 9315 and 9334, for which see above) were equipped with the following parts:

Pump-body Lifting Lever (nozzle end)..... a26H10  
pin (bearing for 23H1H)..... a26H11  
\* \* \* \* \* nut..... 35..... a26H12  
\* \* \* \* \* stud..... 322..... 26H13  
Pump-body Lifting Lever group..... Xa26H9  
\*a26H1H is assembled with a26H13 and a26H14.

**28H—Pump-body Operating Rod..... a28H7**  
extension (bearing)..... a28H8  
washer..... a28H9  
\* \* \* \* \* nut..... 320..... a28H10  
nut..... 321..... a28H11  
\* \* \* \* \* lock nut..... 320..... a28H12  
washer (bearing for a28H10)..... a28H13  
\* \* \* \* \* nut..... 320..... a28H14  
\* \* \* \* \* lock nut..... 320..... a28H15  
Pump-body Operating Rod group..... Xa28H7

Machines prior to 9415 unless equipped with the large Pot Xa12H27 (except 9315 and 9334, for which see above) were equipped with the following parts:

Pump-body Operating Rod..... a28H7  
extension (for 71H1H)..... a28H8  
pin..... 787..... 28H9  
nut (3)..... 321..... 28H14  
\* \* \* \* \* lock nut (2)..... 320..... 28H15  
Pump-body Operating Rod group..... Xa28H7

**29H—Pump-body operating-rod Lever..... 29H1**  
pin..... 29H1  
\* \* \* \* \* cotter..... 94..... 29H2  
stand..... 29H3  
Pump-body operating-rod Lever group..... Xa29H

## PARTS LIST

Machines prior to 7845 were equipped with the following parts:

**90H—Pump-body-operating-rod-lifter-stand Support**..... 30H  
 cover (2)..... 30H1  
 PUMP-BODY-OPERATING-ROD-LIFTER-STAND  
 SUPPORT GROUP..... **X30H**

**31H—Pump-body Spring**..... 6227..... a31H14  
 adjustment (2)..... a31H15  
 rod..... 31H1  
 \* crescent..... 31H2  
 \* " eye..... 31H3  
 \* " nut..... 327..... 31H4  
 \* " pin..... 847..... 31H5  
 \* " cotter..... 93..... 31H6  
 \* " washer..... 45..... 31H7  
 \* " stop..... 31H8  
 \* " nut..... 329..... 31H9  
 \* nut (upper)..... 329..... 31H10  
 \* sleeve (3)..... a31H11  
 stop nut (bottom) (2)..... 331..... 31H13  
 PUMP-BODY SPRING GROUP..... **Xa31H14**

Machines prior to 9200 (except 8051, 9059, 9195 and 9196, for which see above) were equipped with the following part:

**PUMP-BODY SPRING**..... 645..... 31H  
 and omitted a31H14, a31H15 and two of a31H11.

To apply the improved part order the following:

**PUMP OPERATING ROD**..... a19H  
 crosshead (lower)..... a39H8  
 down..... 101H2  
 PUMP BODY SPRING..... 6227..... a31H14  
 adjustment (2)..... a31H15  
 rod sleeve (3) total 3..... a31H11

Machines prior to 9301, in addition to the above, require the following:

**PUMP BELL CRANK**..... a67H1  
 Note: When this PUMP BELL CRANK was applied the number of Gas Pliers 8111 should be reduced to two; if three are used discard one.

**32H—Pump-lever Connecting Link** (between a18H and a34H1)..... 32H  
 pin..... 32H1  
 \* cotter (2)..... 92..... 32H2  
 plunger..... 32H3  
 spring..... 32H4  
 PUMP-LEVER CONNECTING LINK GROUP..... **X32H**

**37H—Swing Frame**..... b37H  
 bushing..... a37H11  
 table..... a37H18H  
 \* adj. screw (for pot) (2)..... a37H19  
 \* " cotter..... a37H20  
 \* stud (for gas burner)..... 92..... a37H21  
 \* spring..... 514..... a37H22  
 \* bolt (3)..... a37H23  
 \* set screw (for Margheri feeder support)..... 15..... a37H23  
 worm shaft..... a37H14  
 \* nut (2)..... 331..... a37H16  
 \* thrust bearing..... a37H16  
 SWING FRAME GROUP..... **Xa37H18**  
 \* 973718H is assembled with b37H, a37H13 and a37H22.

Machines 7845 to 9419 inclusive, unless equipped with large Pot Xa12H27 (except 9215 and 9244, for which see above) were equipped with the following parts:

**SWING FRAME**..... b37H  
 adjusting screw (long)..... 113..... a37H19  
 \* (short) (2)..... a37H10  
 bushing..... a37H11  
 guide block..... a37H17  
 \* screw (2)..... 222..... a37H13  
 handle..... 856..... 37H4  
 \* stem..... 37H4  
 \* nut..... 314..... 37H5  
 spring door..... 314..... 37H6  
 table..... a37H12H  
 \* bolt (3)..... 15..... a37H13  
 worm shaft..... a37H14  
 \* nut (2)..... 331..... a37H16  
 \* thrust bearing..... a37H16  
 SWING FRAME GROUP..... **Xa37H17**  
 \* 973718H is assembled with 37H4 and 37H5.  
 \* 973718H is assembled with b37H and a37H13.

Machines prior to 7845, unless equipped with large pot Xa12H27, were equipped with the following parts:

**SWING FRAME**..... a37H  
 spring pot..... 37H6  
 and omitted a37H10 to a37H16 incl.

**39H—Swing-frame Rock**..... a39H  
 nut..... 377..... a39H1  
 sleeve..... a39H4  
 \* (large)..... a39H5  
 SWING-FRAME ROCK GROUP..... **Xa39H**

Machines prior to 7845, unless equipped with large Pot Xa12H27, were equipped with the following parts:

**SWING-FRAME SCREW**..... a39H6  
 collar..... a39H7  
 nut..... 525..... 39H1  
 washer..... 39H2  
 \* pin..... 747..... 39H3  
 washer (above 30H1)..... 442..... a39H8  
 and omitted a39H, a39H4 and a39H5.

Machines prior to 7845 were not equipped with the group Xb40H2.

**40H—Swing-frame-worm-shaft Crank**..... a40H1  
 handle..... a40H2  
 pin..... a40H3  
 SWING-FRAME-WORM-SHAFT CRANK GROUP..... **Xb40H**  
 \* 40H1H is assembled with a40H2 and a40H3. Order by complete symbol Xb40H.

**49H—Gas Hose 30" (standard)**..... a49H1  
 Machines prior to 9415 (except 9215 and 9244, for which see above) were equipped with the following part:

**GAS HOSE**..... 49H  
 and omitted a49H1.  
 Gas Hose 40" (burner for Gas Regulator)..... a49H2

**50H—Gas Burner (3-burner)**..... a50H1H  
 set regulating sleeve (3)..... 2167..... a50H3  
 \* " screw (3)..... 55H38  
 \* " washer (3)..... 445..... a50H20  
 clamp..... a50H21  
 nut..... a50H21  
 \* washer..... 49..... a50H14  
 screen (3)..... a50H14  
 \* disk (3)..... a50H13  
 \* holder (3)..... a50H15  
 \* collar (3)..... a50H16  
 valve (3)..... a50H18  
 \* body..... a50H19  
 \* bolt..... 339..... a50H10  
 \* pipe (gal. iron, 1-4" x 3-4")..... a50H17  
 \* elbow (90°)..... a50H24H  
 \* nipple (gal. iron)..... a50H10  
 \* pipe (1-4" iron)..... 392..... a50H11  
 (190°, brass) (3) 2235..... a50H15  
 \* nozzle (3)..... a50H15  
 \* nut (3)..... a50H7  
 \* lock nut (3)..... 392..... a50H8  
 \* spring (3)..... 6185..... a50H6  
 GAS BURNER GROUP..... **Xb50H14**  
 \* 50H1H is assembled with 55H2, a50H3 and a50H6.

**55H4H (3)** is assembled with a50H3 (3), a50H24H is assembled with a50H11, a50H8, a50H7, a50H8, a50H11, a50H12, a50H19 and a50H30.  
 Note: If natural gas is used, omit VALVE 55H4H and substitute VALVE a50H4H, which are assembled with a50H30.

Machines prior to 9415 (except 9215 and 9244, for which see above) were equipped with the following parts:

**GAS BURNER**..... a50H27  
 shield (on a37H)..... a50H28  
 pin..... a50H32  
 support..... a50H32H  
 \* bolt..... a50H32H  
 \* nut..... 327..... a50H29  
 \* 55H32H is assembled with a50H32.  
 Note: These parts are not required when the large MINTING PIV is applied.

**57H—Latch**..... 57H1  
 plate..... a57H4  
 \* screw (2)..... 244..... 57H3  
 LATCH GROUP..... **Xa57H4**

**58H—Latch Adjustment**..... a58H1  
 \* screw (2)..... 244..... a58H3  
 LATCH ADJUSTMENT GROUP..... **X58H**

**59H—Latch-adjustment Spring**..... 6107..... 59H1  
 Machines 7816, 8720, 8721, 8722, and 8732 to 9219 inclusive (except 8051, 9059, 9195 and 9196 for which see 59H1) were equipped with the following parts:

**LATCH-ADJUSTMENT SPRING**..... 6108..... a59H2  
 plate (2)..... a59H3

**60H—Latch Pin**..... 60H1H  
 cotter..... 36..... 60H2  
 plate..... a60H4  
 \* spring pin..... 890..... 60H4  
 \* stop pin..... a60H5  
 LATCH PIN GROUP..... **X60H**  
 \* 60H1H is assembled with 60H3, 60H4 and 60H5.

**61H—Latch Spring**..... 61H1

**62H—Latch Stand**..... 62H1  
 stand..... 62H2  
 \* arm..... 62H3  
 \* nut..... 327..... 62H4  
 \* lock nut..... 391..... 62H5  
 \* spring..... 62H6  
 spring pin (for 50H1)..... 892..... 62H7  
 LATCH STAND GROUP..... **Xa62H5**  
 \* 62H1H is assembled with 62H8.

**66H—Pipa Bracket**..... 66H1  
 overflow shield..... 66H8  
 nipple (1-2" x 3-4" lg.)..... 66H5  
 \* arm..... 66H6  
 plug 1-2" x 2-3" lg..... 66H2  
 screw (2)..... 216..... 66H3  
 short nipple 1-2"..... 66H4  
 tee..... 66H7  
 PIPA BRACKET GROUP..... **X66H**

**67H—Pump Bell Crank**..... a67H1

Machines prior to 9301 were equipped with the following part:

**PUMP BELL CRANK**..... 67H1  
 Note: The improved part is interchangeable.

**68H—Pump-bell-crank Connecting Rod**..... 68H1  
 eye (head)..... 68H2  
 \* gus block..... 68H3  
 \* " pin..... a68H16  
 \* fulcrum pin..... 847..... 68H4  
 \* " handle..... 68H6  
 \* " stem..... 250..... 68H7  
 \* " nut..... 314..... 68H8  
 \* " washer..... 410..... a68H5  
 \* " spring clip..... 68H9  
 \* lock nut..... 324..... 68H10  
 (year)..... 68H11  
 \* lock nut..... 68H12  
 \* pin..... 68H13  
 \* cotter (2)..... 91..... 68H14  
 PUMP-BELL-CRANK CONNECTING ROD GROUP..... **X68H**  
 \* 68H1H is assembled with a68H16 and 68H18.

Machines prior to 9210 (except 8195, for which see above) were equipped with the following part:

**PUMP-BELL-CRANK CONNECTING ROD GAS BLOCK**..... 68H3

\* This part is obsolete and will no longer be furnished. Order instead the improved part 68H3H.

**69H—Pump-bell-crank Shaft**..... 69H1

\* **70H—Pump-bell-crank-shaft Set Screw**..... 70H1

**71H—Pump-body Lifting Spring 6248**..... a71H1  
 plate (upper)..... 71H2  
 \* (lower)..... a71H3  
 PUMP-BODY LIFTING SPRING GROUP..... **Xa71H**

Machines prior to 9415, unless equipped with the large Pot Xa12H27 (except 9215 and 9244, for which see above), were equipped with the following parts:

**PUMP-BODY LIFTING SPRING**..... 6248..... 71H1  
 plate (2)..... 71H2  
 PUMP-BODY LIFTING SPRING GROUP..... **X71H**

**72H—Swing-frame Catch Bolt**..... 72H1  
 nut..... 328..... 72H2  
 SWING-FRAME CATCH BOLT GROUP..... **X72H**

Machines prior to 7845 were equipped with the following parts:

**73H—Swing-frame-screw Ratchet**..... 73H1  
 \* wrench..... 73H2  
 and omitted Xb40H.

<b>74H—Water Pipe</b>	
(front) (1-4" supply).....	a74H1
(rear) (1-4" supply).....	a74H2
(front) (1-4" drain).....	a74H3
(rear) (1-4" drain).....	a74H4
wash CRIP with 1-8" pipe thread for 1-4" O.D. tubing (2).....	74H5
<b>Water Pipe group</b> .....	<b>Xa74H</b>

For additional parts for Logotype Attachment see page 12.

Machines prior to 70140 were equipped with the following parts:

<b>Water Pipe</b>	
(front) (1-4" supply).....	74H1
(rear) (1-4" supply).....	74H2
(front) (1-4" drain).....	74H3
(rear) (1-4" drain).....	74H4

To apply the improved parts, order the following:

<b>Water Pipe Group</b> .....	<b>Xa74H</b>
BOLTED-ELBOW SERVICE (6).....	252E58
BOLTED-ELBOW NUT (6).....	252E59

<b>75H—Water Cock (female ends, 1-4" tap)</b>	<b>75H1</b>
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**77H—Pyrometer**..... **X7H1**  
Pyrometers are guaranteed for one year, provided they have not been opened or tampered with.

<b>77H—Pyrometer Support</b> .....	<b>77H1</b>
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<b>78H—Pyrometer—thermocouple Support</b>	
nut.....	78H1
nut.....	a78H2
nut.....	78H3
nut.....	78H4
<b>Pyrometer—thermocouple Support group</b> .....	<b>Xa78H</b>

Machines prior to 9415, unless equipped with the large Pot Xa12E27 (except 9315 and 9334, for which see above), were equipped with the following part:

<b>Pyrometer—thermocouple Support Arm</b>	<b>78H2</b>
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Machines equipped with 1935 Style Electric Melting Pot equipment, omit 78H1 and use instead:

<b>Pyrometer—thermocouple Support</b> .....	<b>78H5</b>
<b>Pyrometer—thermocouple Support group</b> .....	<b>X78H5</b>

<b>80H—Gas-Heose Coupling</b> .....	<b>80H1</b>
valve.....	80H2

<b>CAN-DOSE COUPLER group</b> .....	<b>X80H</b>
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<b>81H—Latch Gag Plate (3)</b> .....	<b>a81H1</b>
stud bolt.....	a81H2
" washer.....	a81H4
<b>LATCH GAG PLATE group</b> .....	<b>Xa81H</b>

Machines prior to 9415 (except 9315 and 9334, for which see above), were not equipped with the following part:

<b>LATCH GAG PLATE (3)*</b> .....	<b>81H1</b>
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\*On Machines prior to 9301, 3 Latch Gag Plates were supplied. This quantity was reduced to 2 at the application of the improved Piston Operating Rod Cross-head.....a19H18

Machines prior to 9415, unless equipped with the large Pot Xa12E27 (except 9315 and 9334, see above), were not equipped with the following part:

<b>87H—Pump-body-lifting-lever Adjusting Pin (center)</b> .....	<b>87H1</b>
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Machines prior to 9415, unless equipped with the large Pot Xa12E27 (except 9315 and 9334, see above), were not equipped with the following part:

<b>87H—Pump-body-lifting-lever Adjusting Pin Side</b> .....	<b>87H1</b>
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<b>88H—Nozzle Shield</b> .....	<b>88H1H</b>
nut (2).....	88H2
" screw (2).....	2159

\*NOZZLE SHIELD group.....**X88H**  
\*88H1H is assembled with 88H2 and 88H3. Order by complete symbol X88H.

Machines prior to April 1930, were equipped with Nozzle Shield 252E53 and its four screws a52E54. This Nozzle Shield has been superseded by.

<b>NOZZLE SHIELD</b> .....	<b>X88H*</b>
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\*This Nozzle Shield may be applied to any previous machine.

## Molds for Material Maker

**Style NR, for non-fusion in sizes 1-2 to 3-point inclusive, and for both fusion and non-fusion in sizes from 4 to 12 point.**  
(7/32" is standard slug, .853" is column rule, .885" is rule and border).

**Style NR2F, for fusion only in sizes 1-2 to 3 point inclusive, and including 2-point .003" high classified ad-rule Mold.**

**Style IN2FZ, for 1-point fusion leads, with special nozzle (a14H19). It is advisable to use Cutter Tripping Attachment (28CU) to operate cutter when using IN2FZ Molds at intervals of 24 casts in length.**

**Style NRA, for electrolyte beams and tie-up slugs in 12 point.**

**Style NRH, for rules with face flush on the side, non-fusion in sizes 1-2 to 3 point inclusive, and both fusion and non-fusion in sizes from 4 to 12 point.**

**Style NR2FZ, for rules with face flush on the side, fusion only in sizes 1-2 to 3 point inclusive.**

**Style NRD, for tapered column rules or slugs, large at bottom (standard is 5/16 points thick at top and 6 points thick at bottom—requires 3/16H3M312 Matrix), other point sizes and tapers to order.**

**Style NR2G, in .853" or .885" height for casting rule from regular Material Making Matrices and trimming it to make face flush to side—in size to 12 point. (Fusion 3 point and smaller, Style NR20FZ.)**  
When casting and stacking non-fusion material, NR2G Molds require:  
CUTTER BRACKET (for short leads).....a150F18  
guide.....a150F19  
" bolt.....a150F20  
" nut.....a150F21  
slat holder (fixed).....a150F22  
" screw.....a150F23  
" washer.....a150F24

**MOLD SCREWS (2 to 6 point).....2285,  
" (7 to 18 point).....2288.**

## Matrices for Material Maker

(Up to 12 point)

**Rules (.030" and .015" drive, 2-point classified ad-rule).**  
(.065" drive, including column rule).  
(.045" drive).  
(above 12 point or made special for 18-point Mold).  
DECORATIVE BORDER.....  
SNOW-GOLDEN DARTS.....  
BRACKET OR BRACKET.....  
BLANK.....  
RULES—Special depth drive (subject to approval of factory).

### Flush-Side Matrices for Material Making Machine:

**Rules (single-line face).**  
BLANK.....  
RULES (two-line face).....  
NOTE: Order MATRICES by symbol markings.

(ATTACHMENT 23CU)

## Logotype Attachment

ORDER: To provide means for operating an NRQ Mold on the Material Making Machine.

NOTE: The NRQ Mold is designed to cast LOGOTYPES from Linotype or similar matrices. NRQ Mold must be ordered separately from this ATTACHMENT.

This Attachment consists of the following parts:

<b>7A—Matrix Carrier</b> .....	b57A4A
plate.....	a57A8
" rivet (3).....	a57A9
nut screw.....	a57A6
" adjustment.....	a57A7
" packing piece (positions matrices) (2).....	a57A5
<b>MATRIX CARRIER group</b> .....	<b>Xb57A4</b>
*b57A4A is assembled with a57A6, a57A8 and a57A9.	

<b>58A—Matrix Carrier Pin</b> .....	<b>7232</b>	<b>58A1</b>
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<b>59A—Matrix Carrier Toggle Link (lower)</b> .....	<b>a59A1</b>
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## 252E—Mold Holder

base plate.....	a252E57E
nozzle seat (give thickness).....	252E59
bolster (front).....	a252E58E
" clamp pin.....	a252E60
" " " adjusting screw.....	2247
" " " spring.....	6155
" elbows (3).....	a252E61
" sleeve (2).....	a252E62
" " nut (2).....	a252E63
" plug screw (5-16").....	2249
" screw (to base) (2).....	a252E64
" " washers (2).....	a252E65
" (rear).....	a252E66E
" elbow (2).....	a252E67
" sleeve (2).....	a252E68
" " nut (2).....	a252E69
" plug screw (3/4") (3).....	2248
" plug screw (5-16").....	2249
" screw (to base) (2).....	a252E70
" " washers (2).....	a252E71
zinc plate (2).....	a252E72
" screw (4).....	241
matrix guide (front).....	a252E73
" " screw (to base) (2).....	a252E74
" " washer (2).....	a252E75
" (rear).....	a252E76
" screw (to base) (2).....	a252E77
" " washer (2).....	a252E78
mold closure.....	b252E79
" guide plate (left).....	b252E80
" " adjustment (2).....	a252E81
" " " screw (4).....	a252E82

241.....	a252E83
" clamp.....	a252E84
" screw (2).....	2166

" stop plate (rear).....	a252E85
" wedge.....	a252E86
" " adjustment.....	a252E87
" shoe.....	a252E88
" " screw (2).....	225
through bolt (short) (4).....	a252E89
" nut (4).....	a252E90
" washer (8).....	a252E91

Mold HOLDER group.....**252E87E**

252E87E is assembled with 252E82, 252E81, a252E10, 252E14, 252E17, 252E24, 252E28, a252E34, a252E35, 252E36, 252E39, 252E42, 252E43, 252E44, 252E45, 252E46, 252E47, 252E48, 252E49, 252E50, 252E51, 252E52, 252E53, 252E54, 252E55, 252E56, 252E57, 252E58, 252E59, 252E60, 252E61, 252E62, 252E63, 252E64, 252E65, 252E66, 252E67, 252E68, 252E69, 252E70, 252E71, 252E72, 252E73, 252E74, 252E75, 252E76, 252E77, 252E78, 252E79, 252E80, 252E81, 252E82, 252E83, 252E84, 252E85, 252E86, 252E87, 252E88, 252E89, 252E90, 252E91, 252E92, 252E93, 252E94, 252E95, 252E96, 252E97, 252E98, 252E99, 252E100, 252E101, 252E102, 252E103, 252E104, 252E105, 252E106, 252E107, 252E108, 252E109, 252E110, 252E111, 252E112, 252E113, 252E114, 252E115, 252E116, 252E117, 252E118, 252E119, 252E120, 252E121, 252E122, 252E123, 252E124, 252E125, 252E126, 252E127, 252E128, 252E129, 252E130, 252E131, 252E132, 252E133, 252E134, 252E135, 252E136, 252E137, 252E138, 252E139, 252E140, 252E141, 252E142, 252E143, 252E144, 252E145, 252E146, 252E147, 252E148, 252E149, 252E150, 252E151, 252E152, 252E153, 252E154, 252E155, 252E156, 252E157, 252E158, 252E159, 252E160, 252E161, 252E162, 252E163, 252E164, 252E165, 252E166, 252E167, 252E168, 252E169, 252E170, 252E171, 252E172, 252E173, 252E174, 252E175, 252E176, 252E177, 252E178, 252E179, 252E180, 252E181, 252E182, 252E183, 252E184, 252E185, 252E186, 252E187, 252E188, 252E189, 252E190, 252E191, 252E192, 252E193, 252E194, 252E195, 252E196, 252E197, 252E198, 252E199, 252E200, 252E201, 252E202, 252E203, 252E204, 252E205, 252E206, 252E207, 252E208, 252E209, 252E210, 252E211, 252E212, 252E213, 252E214, 252E215, 252E216, 252E217, 252E218, 252E219, 252E220, 252E221, 252E222, 252E223, 252E224, 252E225, 252E226, 252E227, 252E228, 252E229, 252E230, 252E231, 252E232, 252E233, 252E234, 252E235, 252E236, 252E237, 252E238, 252E239, 252E240, 252E241, 252E242, 252E243, 252E244, 252E245, 252E246, 252E247, 252E248, 252E249, 252E250, 252E251, 252E252, 252E253, 252E254, 252E255, 252E256, 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252E701, 252E702, 252E703, 252E704, 252E705, 252E706, 252E707, 252E708, 252E709, 252E710, 252E711, 252E712, 252E713, 252E714, 252E715, 252E716,



<b>156F—Cutter Bracket</b> (for short heads).....	a156F18
guide.....	a156F19
" bolt.....	a156F20
" nut.....	35 a156F21
" washer.....	415 a156F10
shear blade (fixed).....	a156F22
" screw.....	133 a156F23
" (movable).....	a156F24
" carrier.....	a156F10F
" pin.....	156F16
stop screw.....	2215 a156F17
CUTTER BRACKET GROUP.....	Xa156F18
*a156F18F is assembled with 156F16.	

<b>157F—Cutter Rock Shaft</b> .....	157F1
tooth.....	a157F4F
*a157F4F is assembled with 157F1.	

<b>172F—Stacker Box</b> (for short heads).....	a172F9
picking pins.....	a172F10
STACKER BOX GROUP.....	Xa172F9

<b>14H—Nozzle No. 9</b> (5-8").....	c14H27
Machines prior to #415 (except #315 and #314 for which see above) were equipped with the following parts:	
Nozzle No. 9 (1-2") for X23H1.....	b14H27

<b>74H—Water Pipe Extension</b> (front & rear).....	a74H6
Union coupling 1-4" with 13-32" Hex. in middle (2).....	a74H7
" sleeve (2).....	a74H8
" nut (2).....	a74H9
WATER PIPE EXTENSION GROUP (2) each	Xa74H6

<b>25L—Gage</b> (for Mold Blade stroke of 12 and 12 1/2-pieces non-fabric).....	a25L2
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## Mold for Logotype Attachment

**Style NRQ**, in .875" height for casting Logotypes from slug machine matrices and trimming them in size to 12 point.

(ATTACHMENT 25CU)

## 18-Point Attachment

**OBJECT:** To provide for speed reduction and parts for casting 18-point material.

This attachment consists of the following parts:

<b>201E—Bolt Tightener Arm Spring Extension</b> .....	e201E2
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<b>252E—Metric Guide</b> (rear) (to position 12 point face on front side of 18 point body).....	a252E74
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<b>277E—Intermediate Pulley</b> (2-step, 1 7/8" Dia. and 1 1/2" Dia.).....	277E1E
bracket.....	277E2
" washer.....	277E3
" cushion bushing.....	277E3
" sprocket (18 teeth).....	277E4
" pin.....	716L
" nut.....	277E6
" screw.....	277E7
INTERMEDIATE PULLEY GROUP.....	X277E
*277E1E is assembled with 277E3, 277E4 and 277E5.	

<b>278E—Motor Pulley</b> (Standard) (for 1150 r.p.m., 2-step, 2 1/4" Dia. and 2" Dia., for use with 30" Dia. Pulley a278E32).....	a278E32E
sprocket (14 teeth).....	278E2
" pin.....	716L
set screw.....	278E4
*278E1E is assembled with 278E2, 278E3 and 278E4.	

**NOTE:** Special Pulleys for 18-Point Attachment.

<b>MOTOR PULLEY</b> (Special) (for 900 r.p.m., 2-step, 2 1/4" Dia. and 2 3/8" Dia.) (for Machines equipped with Pulley a252E32, 20" Dia.).....	a278E32E
sprocket (16 teeth).....	a278E32
" pin.....	278E4
" set screw.....	a278E3
*278E32E is assembled with 278E3, 278E4 and a278E3.	
<b>MOTOR PULLEY</b> (Special) (for 750 r.p.m., 2-step, 2 1/4" Dia. and 2 3/8" Dia.) (for Machines equipped with Pulley a252E32, 20" Dia.).....	a278E32E
sprocket (21 teeth).....	a278E39
*a278E39 is assembled with 278E3, 278E4 and a278E3.	

## 278E—Motor Pulley (continued)

<b>MOTOR PULLEY</b> (Special) (for 1400 r.p.m., 2-step, 2 1/4" Dia. and 1 5/8" Dia.) (for Machines equipped with Pulley a252E32, 20" Dia.).....	a278E10H
" pin.....	a278E10E
*a278E10E is assembled with 278E3.	
<b>MOTOR PULLEY</b> (Standard) (for 1150 r.p.m., 2-step, 1 7/8" Dia. and 1 1/2" Dia.) (for Machines equipped with Pulley a252E32, 2-step, 1 1/2" and 1 5/8" Dia.).....	278E1E
sprocket (14 teeth).....	278E2
*278E1E is assembled with 278E2, 278E3 and 278E4.	

<b>279E—Roller Chain</b> , 25" long (Diamond Chain).....	279E1
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<b>14H—Nozzle</b> (all purposes).....	14H58
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<b>69H—Pump Ball Crank and Intermediate Pulley Bracket Fulcrum Pin</b> .....	a69H2
collar.....	a69H3
set screw.....	a69H4

In addition to the preceding parts, the following parts must be furnished if not already on the machine:

<b>53F—Shear Blade</b> .....	a53F3
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<b>44F—Shear Blade Guide</b> and 170F1 altered to a170F1.....	a44F2
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<b>57F—Transfer Bar</b> .....	a57F1
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On machines prior to 1187F it is necessary to furnish the following parts:

<b>241E—Mold Closure Operating Rod Spring</b> .....	a241E8
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<b>244E—Pulley Guard</b> .....	a244E5
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<b>253E—Pulley</b> (20" diameter).....	a253E2
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<b>255E—Index Plate</b> (2-step).....	a255E1
" nut.....	251 a255E2
INDEX PLATE GROUP.....	Xa255E

For cutting and stacking short lengths of 18-point fabric material the following parts are required:

<b>156F—Cutter Bracket Shear Blade Carrier</b> (for short heads).....	a156F16F
pin.....	156F10
*a156F16F is assembled with 156F10.	

<b>157F—Cutter Rock Shaft</b> .....	157F1
tooth.....	a157F4F
*a157F4F is assembled with 157F1.	

## Molds for 18-Point Attachment

**Style 1MRA and 18NRA** for slugs (.750" or other ordinary slug height) or base height (.853").

**Style 1MRA2G and 18NRA2G**, to cast rules with bevel interchanging and trimmed to make flush side face.

**Style 1MRA3G and 18NRA3G**, for Logotype height (.875") to cast with bevel and overhanging and trimmed flush.

## Matrices for 18-Point Attachment

**STANDARD RULE MATRICES**, 12 point and smaller, can be used on Monos up to 18 point, inclusive.

**SYMBOLIC RULE MATRICES** for 18 point are made to order.

(ATTACHMENT 27CU)

## 36-Point Attachment

**OBJECT:** To provide for the casting of Material up to 36 point.

The operating parts of the 18-Point Attachment (except a252E74, 14H58, a31F3, and a44F2 are required, if not already on the machine, in addition to the following parts:

<b>57A—Matrix Carrier</b> .....	a57A10A
plate (2).....	67A2
" rivet (3).....	716L
" filler piece (2).....	a57A11
" rivets (4).....	7206 a57A12
<b>MATRIX CARRIER GROUP</b> .....	Xa57A10
*a57A10 is assembled with 67A2, 67A3, a57A11 and a57A12. Order by the complete symbol Xa57A10.	

<b>201E—Cam Lever Stand Clamping Block</b> .....	a201E5
screw (2).....	111 a201E6

<b>207E—Cutter-cam Lever</b> (rawl).....	a207E17
finger.....	a207E18
" screw (2).....	241 a207E19

<b>237E—Mold Blade Operating Rod Coupling</b> .....	a237E18
---	---------

<b>252E—Mold Holder</b> .....	a252E77E
base plate.....	252E2
" screw (to main stand) (4).....	144 252E3
" washer (4).....	412 252E4
" (to bracket 341E32) (2).....	145 252E5
" washer (2).....	412 252E6

<b>bolster</b> (front).....	a252E79E
" bushing (for clamp pin).....	252E9
" clamp pin.....	a252E86
" adjusting screw.....	a252E87
" spring.....	6155 a252E12

<b>elbow</b> (2).....	a252E13E
" sleeve (2).....	252E8
" nut (2).....	252E9
" plug screw 3/4" (3).....	2248 252E14
" 5/8" (2).....	2249 252E15
" screw (to base) (2).....	142 252E16
" washer (2).....	410 252E17

<b>elbow</b> (2).....	a252E18E
" sleeve (2).....	252E8
" nut (2).....	252E9
" plug screw 3/4" (3).....	2248 252E20
" 5/8" (2).....	2249 252E21
" screw (to base) (2).....	142 252E22
" washer (2).....	410 252E23

<b>elbow</b> (2).....	a252E18E
" sleeve (2).....	252E8
" nut (2).....	252E9
" plug screw 3/4" (3).....	2248 252E20
" 5/8" (2).....	2249 252E21
" screw (to base) (2).....	142 252E22
" washer (2).....	410 252E23

<b>elbow</b> (2).....	a252E18E
" sleeve (2).....	252E8
" nut (2).....	252E9
" plug screw 3/4" (3).....	2248 252E20
" 5/8" (2).....	2249 252E21
" screw (to base) (2).....	142 252E22
" washer (2).....	410 252E23

<b>elbow</b> (2).....	a252E18E
" sleeve (2).....	252E8
" nut (2).....	252E9
" plug screw 3/4" (3).....	2248 252E20
" 5/8" (2).....	2249 252E21
" screw (to base) (2).....	142 252E22
" washer (2).....	410 252E23

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" washer (2).....	410 252E23

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" washer (2).....	410 252E23

It is advisable to return to our factory  
Bobsters in which the waterways have  
become clogged for cleaning and re-  
refining.







Waiting for Inspiration, rushing things  
in reliance upon Inspiration, and all the rest  
of it, are a lazy man's habits. Get the bones of  
the work well into your head, and the tools  
well into your hand, and get on with your job,  
and the Inspiration will come to you: *if you're  
worth a tinker's damn as an artist, that is!*

**BULMER, 462**

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**BEMBO, 405**

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and the Inspiration will come to you: *if you're  
worth a tinker's damn as an artist, that is!*

**DEEPDENE, 315**

**monotype . . . sets better . . . prints better . . . looks better . . .**

**FOURNIER, 403**

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**JANSON, 401**

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well into your hand, and get on with your job,  
and the Inspiration will come to you: *if you're  
worth a tinker's damn as an artist, that is!*

**VALIANT, 412**

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20th Century Ultrabold Condensed, 610

# MATERIAL MAKING MACHINE NOZZLE INFORMATION

POINT SIZE	PRODUCT	CAST IN F.C.A.S.	SPEED IN R.P.M.	HEAT & GEAR PLATE IV	TEMP. OF METAL	RECOMMENDED NOZZLES (2nd choice in parenthesis) (Complete list in Parts List)
1	Continuous Strip Leads—Low or High	6 to 8	100 to 128	10 to 12	600 to 725	14H58
1 1/2	Continuous Strip Leads—Low or High	6 to 8	100 to 128	10 to 12	600 to 725	14H58
	Continuous Strip Rules	6	100 to 128	10 to 12	600 to 725	14H58
	Continuous Strip Leads—Low or High	6 to 8	100 to 128	10 to 12	600 to 700	14H58
2	Continuous Strip Rules and Borders	6	100 to 128	10 to 12	600 to 700	14H58
	Cut-off Dashes	10 to 15	40 to 70	4 to 7	600 to 700	14H58 (c14H17)
	Column Width Leads—Low or High	10 to 15	40 to 70	4 to 7	600 to 700	14H58 (c14H17)
	Continuous Strip Slugs—Low or High	6 to 8 1/2	60 to 90	6 to 9	375 to 650	14H58
	Continuous Strip Rules	6	60 to 80	6 to 8	375 to 650	14H58
	Continuous Strip Column Rules	6	60 to 80	6 to 8	375 to 650	14H58
6	Continuous Strip Borders	6	60 to 70	6 to 7	375 to 650	14H58 (14H54)
	Cut-off Dashes and Logotypes	10 to 15	40 to 60	4 to 6	375 to 650	14H58 (c14H17)
	Curved Piece Cut-off Dashes	10 to 15	40 to 60	4 to 6	375 to 650	14H58 (c14H17)
	Column Width Slugs—Low or High	10 to 15	40 to 60	4 to 6	375 to 650	14H58 (c14H17)
	Continuous Strip Slugs—Low or High	6 to 8 1/2	40 to 60	4 to 6	375 to 625	14H58
	Continuous Strip Rules	6	40 to 60	4 to 6	375 to 625	14H58
12	Cut-off Dashes and Logotypes	10 to 15	30 to 60	3 to 6	375 to 625	14H58 (c14H17)
	Column Width Slugs—Low or High	10 to 15	30 to 60	3 to 6	375 to 625	14H58 (c14H17)
	Continuous Strip Slugs—Low or High	6	18 to 25	*	375 to 625	14H58 (14H54)
18	Continuous Strip Rules	6	18 to 25	*	375 to 625	14H58 (14H54)
	Continuous Strip Borders	6	14 to 25	*	375 to 625	14H58 (14H59)
24	Continuous Strip Slugs—Low or High	6	14 to 18	†	375 to 625	14H58 (14H54)
	Continuous Strip Rules	6	14 to 18	†	375 to 625	14H58 (14H54)
36	Continuous Strip Slugs—Low or High	6	14 to 18	†	375 to 625	14H58 (14H54)
	Continuous Strip Rules	6	14 to 18	†	375 to 625	14H58 (14H54)

\*Requires 18 Point Attachment.

†Requires 36 Point Attachment.

‡May require enlarging supply hole in tip of Nozzle.

(Nozzles: In general, the Nozzle 14H58 will take care of all point sizes from 1 point to 18 point inclusive. The size of the hole in the tip is No. 30 drill and for the larger point sizes this may have to be enlarged a little to obtain the best results. Linotype metal usually requires a slightly larger hole than Monotype metal. Do not make the hole too big. The hole in the tip of this Nozzle is made offset so that it can be brought central

under the closure opening by turning the Nozzle. To use this Nozzle, set the closure opening to match the point size and position of the casting cavity in 1, 1 1/2, and 2 point molds. On larger molds make the closure opening 2 points and center it point ways under the casting cavity. Then turn Nozzle 14H58 until the offset hole in its tip comes central under the closure opening. To check this setting examine the product cast and if one side shows a fan-shaped appearance turn the Nozzle to bring the hole nearer that side and repeat until both sides look alike. For 24, 30, and 36 point, special Nozzles as listed are usually required. Other Nozzles listed in the parts list are older styles.

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